



*IMPORTANT: You need to show your work (steps) not just the final answer*

**Q1)**

If  $y = 2^{2p-1}$  and  $z = p - 2$ , what is the value of  $\frac{y}{z}$  when  $p = 2.5$ ?

**Q2)**

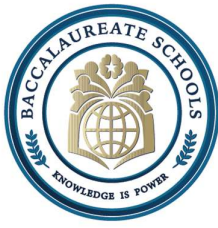
If  $k$  pencils cost  $c$  cents, what is the cost in cents of  $p$  pencils?

**Q3)**

A gardener is planting two types of trees:

- Type  $A$  is three feet tall and grows at a rate of 15 inches per year.
- Type  $B$  is five feet tall and grows at a rate of 9 inches per year.

How many years will it take for these trees to grow to the same height?



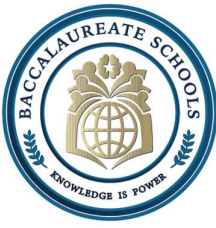
Q4)

If  $\frac{7}{12}x - \frac{1}{3}x = \frac{1}{2} + \frac{3}{8}$ , what is the value of  $x$ ?

Q5)

If  $\frac{1}{8}x + \frac{1}{8}y = y - 2x$ , then what is the value of  $\frac{x}{y}$ ?

Q6) Solve using factoring:  $x^2 + 16 = 10x$



Math – Midterm 1 (20 marks)

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Grade 10<sup>th</sup>

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Q7)

If  $(s - 3)^2 = 0$ , what is the value of  $(s + 3)(s + 5)$ ?

Q8) Solve using completing the square (*notice that  $a$  is not 1*):

$$3x^2 - 33 = 18x$$